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(57) Abstract

The present invention is directed to lightening cosmetic compositions for the treatment of hyperpigmentation. These compositions comprise two ligthening ingredients: magnesium ascorbyl phosphate and UNINONTAN-U34™ (extract formulation of cucumber extract and lemon extract). These two ingredients do not interfere with each other, and instead provide increased lightening capabilities for these compositions.

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SKIN LIGHTENING COMPOSITION CONTAINING MAGNESIUM ASCORBYL PHOSPHATE AND UNINONTAN-U34™ (EXTRACT FORMULATION OF CUCUMBER EXTRACT AND LEMON EXTRACT)

TECHNICAL FIELD

This invention relates to a cosmetic composition that can be used to lighten the skin, and contains magnesium ascorbyl phosphate and UNINONTAN-U34™ (extract formulation of cucumber extract and lemon extract).

BACKGROUND

The color in human skin is caused by the pigment melanin. Melanin is produced in special dendritic cells, melanocytes, which are found below or between the basal cells of the epidermis of the skin. *See U.S. Pat. No. 5,411,741 (Zaias)*. Melanin is synthesized by a reaction cascade triggered by the enzyme tyrosinase. *See U.S. Pat. No. 5,262,153 (Mishima et al.)*.

Normal pigmentation is characterized by an even, uniform coloration. Many individuals have excess melanin pigmentation, or hyperpigmentation. This disorder may lead to unwanted freckles or dark spots on the skin, such as senile lentigo, liver spots, melasma, brown or age spots, vitiligo, sunburn pigmentation, post-inflammatory hyperpigmentation due to abrasion, burns, wounds or dermatitis, phototoxic reaction and other similar small, fixed pigmented lesions. It is often desirable to lighten these areas. Individuals may also wish to increase fairness or reduce the overall level of pigmentation in the skin. In either case, the hyperpigmentation is usually viewed as cosmetically undesirable and individuals often wish to lighten the skin.

There are many chemicals that have a profound physiological effect on the skin. Several groups of dermatological active compounds produce a lightening effect on the skin. Known lightening agents include magnesium ascorbyl phosphate ("MAP"). MAP is a phosphate ester of Vitamin C, and is more stable than Vitamin C itself. MAP functions as a lightening agent by inhibiting tyrosinase activity.

UNINONTAN U-34™, an extract formulation, is distributed by Lipo Chemicals of Paterson, N.J., USA and is manufactured by Induchem of Switzerland. This composition is marketed as a cosmetic ingredient for its skin

lightening properties. Its ingredients are cucumber extract (15.0%), lemon extract (16.0%), sodium citrate (20.0%), propylene glycol (23.5%), and water (25.5%).

The use of one skin lightening ingredient may not be effective for individuals with significant hyperpigmentation or "stubborn" freckles or age spots. However, the combination of skin lightening ingredients can produce negative results. Some ingredients, such as MAP, are unstable in lower pH ranges and under other conditions. Thus, the use of MAP is incompatible with lightening ingredients that reduce the pH of the composition significantly, or alter it in other incompatible ways.

SUMMARY OF THE INVENTION

The features of the invention may be realized and attained by means of the instrumentalities and combinations particularly pointed out in the appended claims. Further features of the invention will be set forth in part in the description which follows and in part will be apparent from the description, or may be learned by practice of the invention.

In accordance with the purpose of the invention in one of its aspects embodied and broadly described herein, there is disclosed:

a cosmetic composition comprising a vitamin C derivative and an extract formulation including cucumber extract and lemon extract.

There is further disclosed: a method of treating hyperpigmentation comprising applying the cosmetic composition, containing a vitamin C derivative and cucumber extract and lemon extract, and repeating the application on a regular basis.

Additional aspects of the invention will be set forth in part in the description which follows, and in part will be apparent from the description, or may be learned by practice of the invention. The purposes and features of the invention will be realized and attained by means of the elements and combinations particularly pointed out in the appended claims.

DETAILED DESCRIPTION

Some embodiments of the invention and one or more ways of practicing the invention will now be described in more detail. Some illustrative, non-limiting examples of preferred embodiments of the invention will also be described.

The present invention comprises a lightening or whitening cosmetic preparation that provides a safe and effective amount of magnesium ascorbyl phosphate and a safe and effective amount of UNINONTAN U-34™. The skin lightening composition of the present invention evens skin tone and reduces hyperpigmentation, contains safe and effective ingredients to prevent melanin formation, and comprises a stable, aesthetically pleasing cosmetic composition. The present invention prevents melanin synthesis and reduces hyperpigmentation when used regularly. The composition can have the added benefit of acting as a skin moisturizer.

Vitamin C derivatives, such as magnesium ascorbyl phosphate ("MAP"), are effective whitening agents, but have certain stability problems. Thus, although it is advantageous to combine Vitamin C derivatives with other lightening ingredients, they may degrade and lose their effectiveness under certain conditions, including low pH. Other stable derivatives of Vitamin C could be used as well, such as other ascorbyl phosphates of alkali metals, alkaline-earth metals, or transition metals. These include sodium, potassium, calcium, or zinc. Other stable Vitamin C derivatives include, but are not limited to, ascorbyl palmitate and ascorbyl acetate. We believe that MAP also functions in the present invention as an environmental protectant, an antioxidant, and an anti-aging/collagen boosting ingredient.

UNINONTAN-U34™ (extract formulation of cucumber extract and lemon extract), an extract formulation, is an effective lightening agent, and importantly it can be combined with the relatively unstable Vitamin C derivatives, such as MAP, without affecting their stability. Thus, it creates an additive effect, increasing the total lightening function available to a user. This allows users to achieve the degree of lightening they wish in a shorter period of time. It also allows users to treat stubborn hyperpigmentation not responsive to traditional treatments. Of

course, the present invention may be practiced by combining the raw materials comprising the UNINONTAN-U34™ (extract formulation of cucumber extract and lemon extract) product in the amounts specified, or by creating reasonable variations in the ingredients. Its ingredients are cucumber extract (15.0%), lemon extract (16.0%), sodium citrate (20.0%), propylene glycol (23.5%), and water (25.5%). While not wishing to be bound by any theory, we believe the active lightening ingredients are cucumber extract and lemon extract, with the other ingredients acting as preservatives and solvents. Another extract formulation of the present invention could preferably include from about 1 to about 50% cucumber extract, more preferably from about 1 to about 25% cucumber extract, and most preferably about 15% cucumber extract, along with from about 1 to about 50% lemon extract, more preferably from about 1 to about 25% lemon extract, and most preferably about 16% lemon extract, with the remainder being made up of water, other solvents, and/or preservatives. Alternatively to the lemon extract, another source of ascorbic acid or a Vitamin C derivative can be added. We will, however, refer to this combination of ingredients in the present invention by its tradename, UNINONTAN-U34™, solely for convenience. One skilled in the art could certainly substitute raw materials for the product without departing from the teachings and scope of the present invention.

The present invention includes a Vitamin C derivative at from about 0.05 to about 10%, preferably from about 0.1 to about 5%. For an emulsion product the most preferable level of the Vitamin C derivative is from about 1 to about 5%, even more preferably about 3%, whereas for a toner product the most preferable level of the Vitamin C derivative is from about 0.1 to about 5%, even more preferably about 0.1%. One skilled in the art would understand that the active ingredients penetrate into the skin better and faster in a toner product. While not wishing to bound by any theory, we believe that in a hydro-alcoholic toner the penetration of the active ingredients is enhanced due to the presence of alcohol and the absence of oil. The Vitamin C derivative may be selected from any stable derivative, more preferably selected from ascorbyl phosphates of alkali metals, alkaline-earth metals, or transition metals such as sodium, potassium, calcium, or

zinc, and most preferably the Vitamin C derivative MAP. The present invention also includes UNINONTAN-U34™ (extract formulation of cucumber extract and lemon extract), or a substitute derived from the raw materials themselves, as discussed above, at a percentage from about .5 to about 10%, preferably from about 1 to about 7%. For an emulsion product the most preferable level for the UNINONTAN-U34™ is about 5%, whereas it would be about 3% for the toner. Again, a skilled artisan would understand that the active ingredients penetrate into the skin better and faster in a toner product.

As the Vitamin C derivative, such as MAP, can be sensitive to pH, the pH of the final composition should be above 4.5, preferably at or above 5.0, more preferably at or above 6.0, and even more preferably at or above 7.0. The pH of the composition should preferably be below 8.5 and even more preferably below 8.0, and most preferably below 7.5. One of ordinary skill in the art may add pH adjusting ingredients to the compositions of the present invention to adjust the pH to an acceptable range.

The composition should be applied to the affected area with hyperpigmentation or where the user wishes to achieve lightening on a regular basis. Appropriate treatment is preferably twice a week, more preferably every other day, even more preferably every day, and most preferably twice a day. The frequency of treatment depends on the degree of hyperpigmentation, the degree of lightening desired, the responsiveness of the user's skin, the strength of the cosmetic product, and the convenience to the user's lifestyle.

The efficacy of the whitening agents may be evaluated by using a skin analog, such as, for example, MELANODERM™. Melanocytes, one of the cells in the skin analog, stain positively when exposed to L-dihydroxyphenyl alanine (L-DOPA), a precursor of melanin. The skin analog, MELANODERM™, can be treated with a variety of bases containing the whitening agents according to the present invention or with the base alone as a control. Alternatively, an untreated sample of the skin analog can be used as a control.

The whitening agents of the present invention may be combined with standard cosmetic bases. Bases that may be used in the present invention

include: emulsions, creams, lotions, toner solutions (both aqueous and hydro-alcoholic), anhydrous bases (such as sticks and powders), and ointments. One skilled in the art would generally recognize these and other standard cosmetic bases that can be used in the present invention. Thus, the present invention may be formulated with a variety of cosmetic bases or vehicles in addition to those described in the Examples below. Variations and other appropriate bases will be apparent to the skilled artisan and are appropriate for use in the present invention.

One acceptable whitening base comprises water, TiO_2, xanthan gum, magnesium aluminum silicate, methyl paraben, propyl paraben, hydroxyethylcellulose, EDTA, sodium citrate, isostearyl palmitate, butylene glycol, FINSOLVE™ moisturizer, glycerin, dimethicone, stearic acid, PEG-100 stearate, stearyl alcohol, sorbitan stearate, TEA, water, Na lactate, vitamin E acetate, and natural fragrances.

Base A, an anhydrous base, preferably comprises one or more film-forming agents to provide a novel cosmetic composition which can be topically applied to deliver the hydrophilic agents to the skin. Base A can thus comprise a more or less volatile hydrophobic cosmetic solvent in which a gelling agent is optionally dispersed to provide a desired consistency.

For example, Base A can contain dimethicone, sorbitan isostearate, isononyl isononanoate, lauryl lauryldone, cetyl dimethicone, propylparaben, methyl paraben, cyclomethicone, zinc laurate, mica-aluminum myristate, kaolin, MBX8C (PMMA) polymethyl-methacrylate, and tioxogel CYM.

For Base A, the phase Y ingredients listed in Table 1 below are dispersed by mixing for at least three minutes at high speed. Phase X ingredients are mixed and heated to 65°C until clear. When phase X is clear, the blended phase Y mixture is added, in a propeller type mixer until uniform and free of lumps. Once this mix is uniform, phase Z ingredients are added and the mix is again blended to uniformity.

TABLE 1: Base A

PHASE	DESCRIPTION	Base A #1	Base A #2	Base A #3
X	Dimethicone	0.50	0.50	0.50
X	Sorbitan Isostearate	4.00	4.00	4.00
X	Isononyl Isononanoate	5.00	5.00	5.00
X	Lauryl Lauryldone	3.00	3.00	0.50
X	Cetyldimethicone	10.00	10.00	3.10
X	Propyl Paraben	0.10	0.10	0.10
X	Methyl Paraben	0.30	0.30	0.30
X	Cyclomethicone	--	--	18.00
Y	Zinc Laurate	3.00	3.00	3.00
Y	Mica-aluminum Myristate	12.00	11.52	12.00
Y	Kaolin	1.00	1.00	1.00
Y	MBX8C (PMMA)	5.87	12.00	12.00
Z	Tioxogel CYM	34.10	34.258	34.20

To form an additional anhydrous base, Base A', the wax ingredients in Table 2 below (Phase X) are heated to 90°C to 95°C to melt the waxes. The Phase X mixture is checked for unmelted particles. Next, the Phase Y ingredients are added and the mixture is removed from the heat. The homomix, or similar apparatus, is used next and the Phase Z ingredients are added one at a time and the mixture homomixed well between each addition. The homomix is next set in the sweep mode, and the mixture is allowed to cool to 40°C to 45°C. When the temperature reaches 40°C to 45°C, the Phase W ingredients are added one at a time, mixing well between each addition. The batch is then cooled to 30°C.

TABLE 2: Base A'

Phase	Ingredient	% w/w	in 500 grams
X	Paraffin Wax	1.72	8.6
X	Microcrystaline Wax	0.38	1.9
Y	Dimethicone	5.0	25.0
Y	Cetyl Dimethicone	10.0	50.0
Y	Glyceryl Trihebenate	0.38	1.9
Y	Cyclomethicone	30.43	152.15
Z	Base G	3.99	19.95
Z	Nylon 12	4.0	20.00
Z	Methyl Methacrylate	11.0	55.00
Z	Trihydroxy Stearin	31.0	155.00
W	Ethylhexy D-Methoxycinnamate	0.50	2.5
W	Lavender Oil	0.30	1.5
W	Hydrophobic Sphingolipids	0.50	2.5

Base B, an oil and water emulsion, can comprise the following ingredients: cetyl alcohol, arlacel 165, dimethicone, vitamin E acetate, methyl paraben, octyl palmitate, propyl paraben, xanthan gum, citric acid, and water. An example of a preferred Base B is as follows. Phase X ingredients in the following table are heated to 75°C to get a clear solution. The phase Y ingredients are combined by dispersing the xanthan gum slowly in high speed stirring water at 75°C. Phase Z ingredients are added and mixed well at 75°C. Next the ingredients from Phase X, already combined as above, are added slowly to the combined ingredients of phase Y and Z, using vigorous mixing to get a uniform emulsion. The ingredients are slowly cooled to room temperature while stirring to avoid the formation of clumps.

TABLE 3: Base B

Phase	Ingredients	% w/w	1000 grams
X	Cetyl Alcohol	4.0	40.0
X	Arlacel 165	4.0	40.0
X	Dimethicone	1.0	10.0
X	Vitamin E Acetate	0.2	2.0
X	Octyl Palmitate	4.0	40.0
Y	Xanthan Gum	0.10	1.0
Y	Water	86.44	864.4
Z	Methyl Paraben	0.15	1.5
Z	Propyl Paraben	0.10	1.0
Z	Citric Acid	0.01	0.1

Base C comprises the following ingredients: dimethicone, sorbitan isostearate, isononyl isononanoate, laurydone lauryl pca, cetyl dimethicone, glyceryl tribehenate, ceresin, microcrystalline wax, propyl paraben, methyl paraben, cethomethicone pentamer, zinc laurate, mica, kaolin, titanium dioxide, nylon 12, lactic acid, nylon, glycerine, methyl methacrylate cross polymer, cyclomethicone quaternium-18 carb., tocopheryl linoleate, tocopheryl acetate, retinyl palmitate, hydrophobic sphingolipid.

Base E, an emulsion stick base, comprises the following ingredients: deionized water, stearyl alcohol, decyl oleate, sorbitan isostearate, caprylic/capric triglyceride, cyclomethicone, dimethicone, parzol MCZ, kobo silica, and timiron MP 1005.

Base F, a gel base, comprises the following ingredients: water, ultrez-10, glycereth-26, glycerin, fucogel, lubrigel, TEA, DMDM hydantoin, glycasil-L, prodew, phosphovital, sea fennel, sea rocket, panthenol, water, niacinamide, and water.

Base G, a hydroalcoholic toner solution, comprises water and may also optionally include alcohol. The toner can be alcohol free. In the preferred embodiment, the alcohol is included in a range from about 1% to about 35%. The toner may more preferably include moisturizers, antioxidants, free radical

scavengers, antiiritants, and skin coolants. For formulation requirements a preferred toner could also include pH adjusting agents, preservatives, chelating agents, and cosolubilizers.

In addition to the materials of the base, other ingredients that may be present in the composition include, but are not limited to the following ingredients.

For additional lightening efficacy, extra lightening agents can be added to the composition. These include, among others, licorice, bearberry extract, mulberry extract, and horse chestnut extract. Additional lightening agents would be known to the skilled artisan.

Humectants may be added to the present invention, including black strap powder, diglycerin, erythritol, fructose, glucose, glycerin, glycol, 1,2,6-hexanetriol, honey, hydrogenated honey, hydrogenated starch hydrolysate, inositol, lactitol, maltitol, maltose, mannitol, methoxy PEG-10, methoxy PEG-16, methoxy PEG-40, methoxy PEG-100, PEG-4, PEG-6, PEG-8, PEG-9, PEG-10, PEG-12, PEG-14, PEG-16, PEG-18, PEG-20, PEG-32, PEG-40, PEG-55, PEG-60, PEG-75, PEG-90, PEG-100, PEG-135, PEG-150, PEG-180, PEG-200, PEG-240, PEG-15 butanediol, PEG-5 pentaerythrityl ether, polyglyceryl sorbitol, potassium PCA, PPG-6-sorbeth-245, PPG-6-sorbeth-500, propylene glycol, sodium glucuronate, sodium PCA, sorbeth-6, sorbeth-20, sorbeth-30, sorbeth-40, sorbitol, sucrose, trehalose, urea, and xylitol.

Antioxidants that may be included in the composition comprise: acetyl cysteine, ascorbic acid, ascorbic acid polypeptide, ascorbyl dipalmitate, ascorbyl methylsilanol pectinate, ascorbyl palmitate, ascorbyl stearate, BHA, BHT, t-butyl hydroquinone, caffeic acid, chlorogenic acids, cysteine, cysteine HCl, decyl mercaptomethylimidazole, diamylhydroquinone, di-t-butylhydroquinone, dicetyl thiodipropionate, digalloyl trioleate, dilauryl thiodipropionate, dimyristyl thiodipropionate, dioleyl tocopheryl methylsilanol, disodium ascorbyl sulfate, disodium rutinyl disulfate, distearyl thiodipropionate, ditridecyl thiodipropionate, dodecyl gallate, erythorbic acid, ethyl ferulate, ferulic acid, ginkgo extract, green tea extract, hydroquinone, p-hydroxyanisole, hydroxylamine HCl , hydroxylamine sulfate, isooctyl thioglycolate, kojic acid, madecassicoside, magnesium ascorbate,

magnesium ascorbyl phosphate, methoxy-PEG-7 rutinyl succinate, methylsilanol ascorbate, nordihydroguaiaretic acid, octyl gallate, phenylthioglycolic acid, phloroglucinol, potassium ascorbyl tocopheryl phosphate, potassium sulfite, propyl gallate, rosmarinic acid, rutin, sodium ascorbate, sodium bisulfite, sodium erythorbate, sodium metabisulfite, sodium sulfite, sodium thioglycolate, sorbityl furfural, thiodiglycol, thiodiglycolamide, thiodiglycolic acid, thioglycolic acid, thiolactic acid, thiosalicylic acid, tocophereth-5, tocophereth-10, tocophereth-12, tocophereth-18, tocophereth-50, tocopherol, tocophersolan, tocopheryl acetate, tocopheryl linoleate, tocopheryl nicotinate, tocopheryl succinate, o-tolyl biguanide, and tris(nonylphenyl)phosphite.

Ingredient for moisturizing preparations include: acetylated lanolin, acetylated lanolin alcohol, acrylates/C10-30 alkyl acrylate crosspolymer, acrylates copolymer, alanine, alcohol, alcohol denat., algae extract, allantoin, allantoin acetyl methionine, aloe barbadensis, aloe barbadensis extract, aloe barbadensis gel, althea officinalis extract, aluminum starch octenylsuccinate, aluminum stearate, ammonium glycyrrhizate, apricot (prunus armeniaca) kernel oil, arachidonic acid, arginine, arginine aspartate, arnica montana extract, ascorbic acid, ascorbyl palmitate, aspartic acid, avocado (persea gratissima) oil, barium sulfate, batyl alcohol, beeswax, behenyl alcohol, benzalkonium chloride, benzoic acid, benzophenone-3, benzophenone-4, benzophenone-9, benzyl alcohol, beta-carotene, beta-sitosterol, BHA, BHT, biotin, birch (betula alba) bark extract, bisabolol, black currant (ribes nigrum) extract, borage (borago officinalis) extract, boric acid, 2-bromo-2-nitropropane-1,3-diol, butcherbroom (ruscus aculeatus) extract, butylene glycol, butylparaben, butyl stearate, calcium carbonate, calendula officinalis extract, calendula officinalis oil, C12-15 alkyl benzoate, camellia oleifera extract, camellia oleifera seed extract , camellia sinensis extract, camphor, candelilla (euphorbia cerifera) wax, canola oil, caprylic/capric triglyceride, caramel, carbomer, cardamon (elettaria cardamomum) oil, carnauba (copernicia cerifera) wax, carrageenan (chondrus crispus), carrot (daucus carota) extract, carrot (daucus carota sativa) oil, castor (ricinus communis) oil, cellulose gum, ceresin, ceteareth-5, ceteareth-12, ceteareth-20, cetearyl alcohol, cetearyl

octanoate, ceteth-20, ceteth-24, cetrimonium bromide, cetrimonium chloride, cetyl acetate, cetyl alcohol, cetyl octanoate, cetyl palmitate, cetyl phosphate, cetyl ricinoleate, chamomile (anthemis nobilis) extract, chamomile (anthemis nobilis) oil, chlorhexidine digluconate, p-chloro-m-cresol, cholecalciferol, cholesterol, cholesteryl hydroxystearate, choleth-24, CI 40800, CI 75130, citric acid, clary (salvia sclarea) oil, cocoa (theobroma cacao) butter, coco-caprylate/caprate, coconut (cocos nucifera) oil, collagen, collagen amino acids, comfrey (symphytum officinale) extract, coneflower (echinacea angustifolia) extract, coneflower (echinacea pallida) extract, coneflower (echinacea purpurea) extract, cornflower (centaurea cyanus) extract, corn (zea mays) oil, corn (zea mays) starch, cucumber (cucumis sativus) extract, cyclomethicone, D&C green no. 5, D&C orange no. 4, D&C red no. 17, D&C red no. 33, D&C yellow no. 10, D&C yellow no. 11, DEA-cetyl phosphate, DEA-methoxycinnamate, DEA-oleth-10 phosphate, decyl oleate, dehydroacetic acid, dextrin, diazolidinyl urea, dichlorobenzyl alcohol, dihydrocholeth-30, diisopropyl adipate, diisopropyl dimer dilinoleate, dilauryl thiodipropionate, dimethicone, dimethicone copolyol, dimethiconol, dioctyl adipate, dioctyl succinate, dipentaerythrityl hexacaprylate/hexacaprate, dipotassium glycyrrhizate, dipropylene glycol, disodium adenosine triphosphate, disodium cocamido MIPA-sulfosuccinate, disodium EDTA, disodium ricinoleamido MEA-sulfosuccinate, DMDM hydantoin, DNA, EDTA, elastin, ergocalciferol, erythritol, ethoxydiglycol, ethylene brassylate, ethyl linoleate, ethyl paraben, eucalyptus globulus oil, evening primrose (*oenothera biennis*) oil, ext. D&C violet no. 2, FD&C blue no. 1, FD&C red no. 4, FD&C red no. 40, FD&C yellow no. 5, FD&C yellow no. 6, fructose, gelatin, geranium maculatum oil, ginkgo biloba extract, ginseng (panax ginseng) extract, glucosamine, glucose, glucose glutamate, glutamic acid, glycereth-26, glycerin, glyceryl distearate, glyceryl hydroxystearate, glyceryl laurate, glyceryl linoleate, glyceryl myristate, glyceryl oleate, glyceryl polymethacrylate, glyceryl stearate, glyceryl stearate SE, glycine, glycol stearate, glycol stearate SE, glycosaminoglycans, glycyrrhetinic acid, grapefruit (*citrus grandis*) extract, grapefruit (citrus grandis) seed extract, grape (*vitis vinifera*) seed oil, guar (*cyanopsis tetragonoloba*) gum, hazel (*corylus*

americana) nut oil, hazel (*corylus avellana*) nut oil, hexamidine diisethionate, hexylene glycol, homosalate, honey, horse chestnut (*aesculus hippocastanum*) extract, horsetail (*equisetum arvense*) extract, horsetail (*equisetum hiemale*) extract, hyaluronic acid, hybrid safflower (*carthamus tinctorius*) oil, hydrogenated castor oil, hydrogenated coco-glycerides, hydrogenated coconut oil, hydrogenated lanolin, hydrogenated lecithin, hydrogenated palm glyceride, hydrogenated palm kernel oil, hydrogenated polyisobutene, hydrogenated soybean oil, hydrogenated soy glyceride, hydrogenated tallow glyceride, hydrogenated vegetable oil, hydrolyzed collagen, hydrolyzed elastin, hydrolyzed glycosaminoglycans, hydrolyzed keratin, hydrolyzed soy protein, hydroxyethylcellulose, hydroxylated lanolin, hydroxyproline, hydroxypropylcellulose, hydroxypropyl methylcellulose, hypericum perforatum extract, imidazolidinyl urea, iodopropynyl butylcarbamate, iron oxides, isobutylparaben, isocetyl alcohol, isocetyl stearate, isocetyl stearoyl stearate, isodecyl oleate, isohexadecane, isopropyl alcohol, isopropyl isostearate, isopropyl lanolate, isopropyl myristate, isopropyl palmitate, isopropyl stearate, isostearamide DEA, isostearic acid, isostearyl lactate, isostearyl neopentanoate, ivy (hedera helix) extract, jasmine (jasminum officinale) oil, jojoba (buxus chinensis) oil, kaolin, kelp, kola (cola acuminata) extract, kola (cola nitida) extract, kukui (aleurites moluccana) nut oil, lactamide MEA, laneth-16, laneth-10 acetate, lanolin, lanolin acid, lanolin alcohol, lanolin oil, lanolin wax, lanosterol, laureth-4, laureth-23, lavender (lavandula angustifolia) oil, lecithin, lemon (citrus medica limonum) oil, linden (tilia cordata) extract, linden (tilia vulgaris) extract, linoleic acid, linolenic acid, macadamia ternifolia nut oil, magnesium aluminum silicate, magnesium ascorbyl phosphate, magnesium stearate, magnesium sulfate, mallow (malva sylvestris) extract, maltitol, matricaria (chamomilla recutita) extract, matricaria (chamomilla recutita) oil, menthol, menthol crystals, methicone, methylchloroisothiazolinone, methyldihydrojasmonate, methyl gluceth-10, methyl gluceth-20, methyl glucose sesquistearate, methylisothiazolinone, methyl paraben, methylsilanol PCA, mica, microcrystalline wax, mineral oil, mink oil, mortierella oil, myristyl alcohol, myristyl lactate, myristyl myristate, myristyl

propionate, neopentyl glycol dicaprylate/dicaprate, nonfat dry milk, nylon-12, oak root extract, oat (avena sativa) flour, octoxynol-11, octyl dimethyl PABA, octyldodecanol, octyldodecyl myristate, octyldodecyl stearoyl stearate, octyl hydroxystearate, octyl methoxycinnamate, octyl palmitate, octyl salicylate, octyl stearate, oleic acid, oleth-5, oleth-10, oleth-20, oleyl alcohol, olive (olea europaea) oil, orange (citrus aurantium dulcis) oil, oryzanol, ozokerite, PABA, palm (elaeis guineensis) oil, palmitic acid, pantethine, panthenol, panthenyl ethyl ether, papaya (carica papaya) extract, paraffin, PCA, peach (prunus persica) kernel oil, peanut (arachis hypogaea) oil, PEG-6, PEG-8, PEG-12, PEG-20, PEG-32, PEG-75, PEG-40 castor oil, PEG-8 C12-18 ester, PEG-15 cocamine, PEG-150 distearate, PEG-60 glyceryl isostearate, PEG-5 glyceryl stearate, PEG-30 glyceryl stearate, PEG-7 hydrogenated castor oil, PEG-40 hydrogenated castor oil, PEG-60 hydrogenated castor oil, PEG-20 methyl glucose sesquistearate, PEG-40 sorbitan peroleate, PEG-5 soy sterol, PEG-10 soy sterol, PEG-2 stearate, PEG-8 stearate, PEG-20 stearate, PEG-32 stearate, PEG-40 stearate, PEG-50 stearate, PEG-100 stearate, PEG-150 stearate, pentadecalactone, pentahydrosqualene, peppermint (mentha piperita) oil, perfluoropolymethylisopropyl ether, petrolatum, phenethyl alcohol, phenoxyethanol, phenyl dimethicone, phenyl trimethicone, phospholipids, phosphoric acid, plankton extract, poloxamer 333, polyamino sugar condensate, polyethylene, polyglyceryl-3 diisostearate, polyquaternium-24, polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 80, polysorbate 85, polystyrene, potassium ascorbyl tocopheryl phosphate, potassium cetyl phosphate, potassium hydroxide, potassium laurate, potassium myristate, potassium palmitate, potassium sorbate, potassium stearate, PPG-20 methyl glucose ether distearate, PPG-2 myristyl ether propionate, PPG-15 stearyl ether, proline, propolis extract, propylene carbonate, propylene glycol, propylene glycol dicaprylate/dicaprate, propylene glycol dioctanoate, propylene glycol dipelargonate, propylene glycol laurate, propylene glycol stearate, propylene glycol stearate SE, propyl gallate, propylparaben, PVP, PVP/eicosene copolymer, pyridoxine dipalmitate, quaternium-15, quaternium-18 hectorite, quaternium-22, retinol, retinyl palmitate,

rice (oryza sativa) bran oil, RNA, rosemary (rosmarinus officinalis) extract, rosemary (rosmarinus officinalis) oil, rose oil, royal jelly, saccharide isomerate, saccharin, safflower (carthamus tinctorius) oil, sage (salvia officinalis) extract, sage (salvia officinalis) oil, salicylic acid, sandalwood (santalum album) oil, serine, serum protein, sesame (sesamum indicum) oil, shea butter (butyrospermum parkii), silica, silk powder, simethicone, sodium borate, sodium carbonate, sodium cetearyl sulfate, sodium chloride, sodium chondroitin sulfate, sodium dehydroacetate, sodium DNA, sodium hexametaphosphate, sodium hyaluronate, sodium hydroxide, sodium lactate, sodium laurate, sodium lauryl sulfate, sodium methyl paraben, sodium myristate, sodium palmitate, sodium PCA, sodium polyglutamate, sodium stearate, sodium sulfate, soluble collagen, sorbic acid, sorbitan laurate, sorbitan oleate, sorbitan palmitate, sorbitan sesquioleate, sorbitan stearate, sorbitol, soybean (glycine soja) oil, sphingolipids, squalane, squalene, steapyrium chloride, stearalkonium chloride, stearalkonium hectorite, stearamide MEA-stearate, steareth-2, steareth-10, steareth-20, steareth-21, steareth-100, stearic acid, stearoxy dimethicone, stearoxytrimethylsilane, stearyl alcohol, stearyl glycyrrhetinate, stearyl heptanoate, stearyl stearate, sucrose, sunflower (helianthus annuus) seed oil, sweet almond (prunus amygdalus dulcis) oil, synthetic beeswax, talc, tartaric acid, TEA-stearate, tetrasodium EDTA, titanium dioxide, tocopherol, tocopheryl acetate, tocopheryl linoleate, tribehenin, triclosan, tridecyl neopentanoate, tridecyl stearate, triethanolamine, trimethylsiloxysilicate, trioctanoin, tristearin, tromethamine, ultramarines, urea, vanillin, vegetable oil, water, wheat germ glycerides, wheat (triticum vulgare) germ oil, witch hazel (hamamelis virginiana) extract, xanthan gum , yarrow (achillea millefolium) extract, yeast extract, ylang ylang (cananga odorata) oil, zinc oxide, zinc pyrithione, and zinc stearate.

Ingredients for night cream preparations include: acetylated lanolin, acetylated lanolin alcohol, alcohol, alcohol denat., allantoin, aloe barbadensis, aloe barbadensis extract, aloe barbadensis gel, amniotic fluid, apricot (prunus armeniaca) kernel oil, arachidonic acid, arnica montana extract, ascorbyl palmitate, avocado (persea gratissima) oil, beeswax, benzyl alcohol, beta-

carotene, BHA, BHT, biotin, bisabolol, 2-bromo-2-nitropropane-1,3-diol, burdock (arctium majus) extract, burdock (arctium minus) extract, butylene glycol, butylparaben, calendula officinalis extract, camellia sinensis oil, caprylic/capric triglyceride, carbomer, carnauba (copernicia cerifera) wax, carrot (daucus carota sativa) oil, celandine (chelidonium majus) extract, ceresin, ceteareth-12, ceteareth-20, cetearyl alcohol, cetearyl octanoate, ceteth-20, ceteth-24, cetyl alcohol, cetyl palmitate, cetyl phosphate, chamomile (anthemis nobilis) extract, chamomile (anthemis nobilis) oil, chloroacetamide, cholecalciferol, cholesterol, choleth-24, CI 40800, CI 75130, C13-14 isoparaffin, citric acid, cocoa (theobroma cacao) butter, collagen, corn (zea mays) oil, cucumber (cucumis sativus) extract, cyclomethicone, D&C red no. 17 , D&C red no. 33, D&C yellow no. 10, DEA-cetyl phosphate, decyl oleate, dehydroacetic acid, diazolidinyl urea, dimethicone, dimethicone copolyol, dimethiconol, dipotassium EDTA, dipropylene glycol, disodium EDTA, DMDM hydantoin, DNA, EDTA, ethyl linoleate, ethyl paraben, FD&C blue no. 1, FD&C red no. 4, FD&C yellow no. 5, FD&C yellow no. 6, ginseng (panax ginseng) extract, glutamic acid, glycerin, glyceryl polymethacrylate, glyceryl stearate, glyceryl stearate SE, glycol stearate, glycosaminoglycans, glycyrrhetinic acid, hazel (corylus americana) nut oil, hazel (corylus avellana) nut oil, hexylene glycol, hops (humulus lupulus) extract, horse chestnut (aesculus hippocastanum) extract, horsetail (equisetum arvense) extract, horsetail (equisetum hiemale) extract, hyaluronic acid, hydrocotyl (centella asiatica) extract, hydrogenated coconut oil, hydrogenated lanolin, hydrogenated palm oil, hydrogenated peanut oil, hydrolyzed collagen, hydrolyzed elastin, hydroxyethylcellulose, hydroxylated lanolin, hydroxyoctacosanyl hydroxystearate, hypericum perforatum extract, imidazolidinyl urea, isocetyl stearate, isopropyl lanolate, isopropyl myristate, isopropyl palmitate, jojoba (buxus chinensis) oil, lactoyl methylsilanol elastinate, laneth-10 acetate, lanolin, lanolin alcohol, lanolin oil, laureth-7, lavender (lavandula angustifolia) oil, lecithin, linden (tilia cordata) extract, linden (tilia vulgaris) extract, linoleic acid, macadamia ternifolia nut oil, magnesium aluminum silicate, magnesium sulfate, mallow (malva sylvestris) extract, matricaria (chamomilla recutita) extract, methylchloroisothiazolinone,

methyl gluceth-20, methylisothiazolinone, methylparaben, methylsilanol elastinate, microcrystalline wax, mineral oil, mink oil, myristyl myristate, octyldodecanol, octyl methoxycinnamate, octyl palmitate, ozokerite, palm (elaeis guineensis) oil, panthenol, paraffin, PEG-8, PEG-8 C12-18 ester, PEG-22/dodecyl glycol copolymer, PEG-45/dodecyl glycol copolymer, PEG-7 hydrogenated castor oil, PEG-2 stearate, PEG-6 stearate, PEG-40 stearate, PEG-100 stearate, petrolatum, phenoxyethanol, phenyl dimethicone, phospholipids, polyacrylamide, polyethylene, polysorbate 20, polysorbate 60, polysorbate 80, polystyrene, potassium cetyl phosphate, potassium sorbate, propolis extract, propylene glycol, propylene glycol dicaprylate/dicaprate, propylene glycol stearate, propylene glycol stearate SE, propyl gallate, propylparaben, quaternium-15, quaternium-18 hectorite, retinol, retinyl palmitate, RNA, rosemary (rosmarinus officinalis) extract, royal jelly, safflower (carthamus tinctorius) oil, sage (salvia officinalis) extract, sesame (sesamum indicum) oil, shea butter (butyrospermum parkii), silica, simethicone, sodium borate, sodium cetearyl sulfate, sodium chloride, sodium dehydroacetate, sodium hyaluronate, sodium hydroxide, sodium PCA, soluble collagen, sorbic acid, sorbitan oleate, sorbitan sesquioleate, sorbitan stearate, sorbitol, soybean (glycine soja) oil, squalane, stearic acid, stearyl alcohol, stearyl heptanoate, sunflower (helianthus annuus) seed oil, sweet almond (prunus amygdalus dulcis) oil, tetrasodium EDTA, titanium dioxide, tocopherol, tocopheryl acetate, tocopheryl linoleate, triclosan, triethanolamine, urea, vegetable oil, water, wheat germ glycerides, wheat (triticum vulgare) germ extract, wheat (triticum vulgare) germ oil, wild thyme (thymus serpillum) extract, xanthan gum, and yeast extract.

Ultraviolet light (UV light) absorbers could be incorporated into the present invention, and include the following ingredients: acetaminosalol, allantoin PABA, benzalphthalide, benzophenone, benzophenone-1, benzophenone-2, benzophenone-3, benzophenone-4, benzophenone-5, benzophenone-6, benzophenone-7, benzophenone-8, benzophenone-9, benzophenone-10, benzophenone-11, benzophenone-12, 3-benzylidene camphor, benzylidenecamphor hydrolyzed collagen sulfonamide, benzylidene camphor

sulfonic acid, benzyl salicylate, bornelone, bumetrizole, butyl methoxydibenzoylmethane, butyl PABA, cinoxate, DEA-methoxycinnamate, di-t-butyl hydroxybenzylidene camphor, digalloyl trioleate, diisopropyl methyl cinnamate, dimethyl PABA ethyl cetearyldimonium tosylate, disodium bisethylphenyl triaminotriazine stilbenedisulfonate, disodium distyrylbiphenyl disulfonate, drometrizole, ethyl dihydroxypropyl PABA, ethyl diisopropylcinnamate, ethyl methoxycinnamate, ethyl PABA, ethyl urocanate, etocrylene, ferulic acid, glyceryl octanoate dimethoxycinnamate, glyceryl PABA, glycol salicylate, homosalate, isoamyl p-methoxycinnamate, and isopropylbenzyl salicylate. UV light absorbers may be added to the composition to prevent further sun-induced hyperpigmentation or skin damage. Thus, they present a very effective combination with the lightening agents as they will reduce future sun-damage induced hyperpigmentation, while the lightening agents combat existing hyperpigmentation.

Additional skin care preparation ingredients include: acetylated lanolin, acetylated lanolin alcohol, acrylates/C10-30 alkyl acrylate crosspolymer, alcloxa, alcohol, alcohol denat., algae extract, algin, allantoin, aloe barbadensis, aloe barbadensis extract, aloe barbadensis gel, alpha hydroxy acids, althea officinalis extract, ammonium hydroxide, amniotic fluid, apricot (prunus armeniaca) kernel oil, arachidonic acid, arachidyl propionate, arginine, arnica montana extract, ascorbic acid, ascorbyl palmitate, avocado (persea gratissima) oil, azulene, balm mint (melissa officinalis) extract, basil (ocimum basilicum) oil, beeswax, behenyl alcohol, bentonite, benzethonium chloride, benzoic acid, benzophenone-2, benzophenone-3, benzophenone-4, benzophenone-5, benzyl alcohol, bergamot (citrus aurantium bergamia) oil, beta-carotene, beta hydroxy acids, BHA, BHT, biotin, birch (betula alba) bark extract, bisabolol, Bladderwrack (fucus vesiculosus) extract, 2-bromo-2-nitropropane-1,3-diol, burdock (arctium majus) extract, burdock (arctium minus) extract, butcherbroom (ruscus aculeatus) extract, butylene glycol, butyl methoxydibenzoylmethane, butylparaben, cabbage rose (rosa centifolia) water, caffeine, calcium carbonate, calcium chloride, calendula officinalis extract, calendula officinalis oil, C12-15 alkyl benzoate, camellia oleifera

extract, camellia oleifera seed extract, camellia sinensis extract, camphor, candelilla (euphorbia cerifera) wax, caprylic/capric triglyceride, caramel, carbomer, carnauba (copernicia cerifera) wax, carrageenan (chondrus crispus), carrot (daucus carota) extract, carrot (daucus carota sativa) oil, castor (ricinus communis) oil, cedarwood oil, cellulose, cellulose gum, ceresin, ceteareth-12, ceteareth-20, cetearyl alcohol, cetearyl octanoate, ceteth-20, cetrimonium chloride, cetyl acetate, cetyl alcohol, cetyl octanoate, cetyl palmitate, cetyl phosphate, chamomile (anthemis nobilis) extract, chamomile (anthemis nobilis) oil, chloroacetamide, chloroxylenol, chlorophensin, cholesterol, cholesteryl hydroxystearate, cl 40800, cl 75125, cl 75130, cl 75810, cinnamon (cinnamomum cassia) oil, citral, citric acid, clove (eugenia caryophyllus) oil, cocamide dea, cocamidopropyl betaine, cocoa (theobroma cacao) butter, coconut (cocos nucifera) oil, collagen, comfrey (symphytum officinale) extract, coneflower (echinacea angustifolia) extract, coneflower (echinacea pallida) extract, coneflower (echinacea purpurea) extract, copper gluconate, cornflower (centaurea cyanus) extract, corn (zea mays) oil, corn (zea mays) starch, C12-15 pareth-12, cucumber (cucumis sativus) extract, cyclomethicone, cypress (cupressus sempervirens) extract, cypress (cupressus sempervirens) oil, D&C blue no. 4, D&C green no. 5, D&C orange no. 4, D&C red no. 17, D&C red no. 33, D&C violet no. 2, D&C yellow no. 10, D&C yellow no. 11, DEA-cetyl phosphate, decyl oleate, dehydroacetic acid, diatomaceous earth, diazolidinyl urea, diisopropyl dimer dilinoleate, dimethicone, dimethicone copolyol, dimethiconol, dimethylsilanol hyaluronate, dioctyl adipate, dioleyl tocopheryl methylsilanol, dipropylene glycol, disodium cocoamphodiacetate, disodium EDTA, disodium phosphate, DMDM hydantoin, DNA, EDTA, elastin, ergocalciferol, escin, ethoxydiglycol, ethyl linoleate, ethyl paraben, eucalyptus globulus oil, farnesyl acetate, FD&C blue no. 1, FD&C green no. 3, FD&C red no. 4, FD&C red no. 40, FD&C yellow no. 5, FD&C yellow no. 5 aluminum lake, FD&C yellow no. 6, fennel (foeniculum vulgare) extract, artificial and natural fragrances, geranium maculatum oil, ginkgo biloba extract, ginseng (panax ginseng), ginseng (panax ginseng) extract, glucose, glycereth-26, glycerin, glyceryl hydroxystearate,

glyceryl oleate, glyceryl polymethacrylate, glyceryl stearate, glyceryl stearate SE, glycine, glycolic acid, glycol stearate, glycosaminoglycans, glycyrrhetinic acid, grape (vitis vinifera) seed oil, guaiazulene, guanine, guanosine, guar hydroxypropyltrimonium chloride, hazel (corylus americana) nut oil, hazel (corylus avellana) nut oil, hexylene glycol, honey, hops (humulus lupulus) extract, horse chestnut (aesculus hippocastanum) extract, horsetail (equisetum arvense) extract, horsetail (equisetum hiemale) extract, hyaluronic acid, hydrocotyl (centella asiatica) extract, hydrogenated castor oil, hydrogenated coconut oil, hydrogenated lanolin, hydrogenated lecithin, hydrogenated palm kernel oil, hydrogenated peanut oil, hydrogenated polyisobutene, hydrogenated tallow glyceride, hydrogenated vegetable oil, hydrolyzed casein, hydrolyzed collagen, hydrolyzed elastin, hydrolyzed glycosaminoglycans, hydrolyzed milk protein, hydrolyzed soy protein, hydrolyzed yeast protein, hydroquinone, hydroxyethylcellulose, hydroxyproline, hydroxypropyl methylcellulose, hypericum perforatum extract, imidazolidinyl urea, iodopropynyl butylcarbamate, iron oxides, isobutylparaben, isocetyl stearate, isopropyl alcohol, isopropyl isostearate, isopropyl lanolate, isopropyl myristate, isopropyl palmitate, isostearyl isostearate, isostearyl neopentanoate, ivy (hedera helix) extract, jasmine (jasminum officinale) oil, jojoba (busus chinensis) oil, juniperus communis extract, juniperus oxycedrus extract, kaolin, lactoyl methylsilanol elastinate, lady's mantle (alchemilla vulgaris) extract, lanolin, lanolin alcohol, lanolin oil, lanolin wax, lauramide DEA, laureth-4, laureth-23, laurylpyridinium chloride, lavender (lavandula angustifolia) oil, lecithin, lemon (citrus medica limonum) extract, lemon (citrus medica limonum) juice, lemon (citrus medica limonum) oil, lime (citrus aurantifolia) oil, linden (tilia cordata) extract, linden (tilia vulgaris) extract, linoleic acid, linolenic acid, linseed (linum usitatissimum) oil, locust bean (ceratonia siliqua) gum, macadamia ternifolia nut oil, magnesium aluminum silicate, magnesium chloride, magnesium gluconate, magnesium sulfate, mallow (malva sylvestris) extract, maltitol, manganese gluconate, matricaria (chamomilla recutita) extract, menthol, metnthyl lactate, methylcellulose, methylchloroisothiazolinone, methyldihydrojasmonate, methyl gluceth-10, methyl gluceth-20, methylisothiazolinone, methyl paraben, methyl

salicylate, methylsilanol mannuronate, mica, microcrystalline wax, mineral oil, mink oil, myristyl lactate, myristyl myristate, myrrh (commiphora myrrha) extract, niacinamide, nonoxynol-12, oak root extract, octoxynol-11, octoxynol-13, octyl dimethyl PABA, octyldodecanol, octyldodecyl myristate, octyl methoxycinnamate, octyl palmitate, octyl stearate, oleic acid, oleth-5, oleth-10, oleth-20, oleyl alcohol, oleyl erucate, olive (olea europaea) leaf extract, olive (olea europaea) oil, orange (citrus aurantium dulcis) oil, oryzanol, ozokerite, palmarosa (cymbopogon martini) oil, palm (elaeis guineensis) oil, pansy (viola tricolor) extract, pantethine, panthenol, panthenyl ethyl ether, panthenyl triacetate, paraffin, PEG-4, PEG-6, PEG-8, PEG-32, PEG-75, PEG-33 castor oil, PEG-40 castor oil, PEG-8 C12-18 ester, PEG-150 distearate, PEG-7 glyceryl cocoate, PEG-40 hydrogenated castor oil, PEG-60 hydrogenated castor oil, PEG-4 octanoate, PEG-44 sorbitan laurate, PEG-5 soy sterol, PEG-2 stearate, PEG-2 stearate SE, PEG-6 stearate, PEG-40 stearate, PEG-100 stearate, peppermint (mentha piperita) extract, peppermint (mentha piperita) oil, petrolatum, phenethyl alcohol, phenol, penoxyethanol, phenoxyethanol, phenyl trimethicone, phosphoric acid, pigskin extract, plankton extract, plantain (plantago lanceolata) extract, plantain (plantago major) extract, plantain (plantago ovata) seed extract, polyamino sugar condensate, polydextrose, polyethylene, polyglyceryl-2 diisostearate, polymethyl methacrylate, polyquaternium-10, polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 80, polystyrene, polyvinyl alcohol, potassium ascorbyl tocopheryl phosphate, potassium cetyl phosphate, potassium hydroxide, potassium sorbate, potassium stearate, procetyl AWS, proline, propyl alcohol, propylene glycol, propylene glycol dicaprylate/dicaprate, propylene glycol dipelargonate, propylene glycol laurate, propylene glycol myristate, propylene glycol stearate, propyl gallate, propylparaben, PVP, quaternium-15, quarternium-18 hectorite, retinol, retinyl palmitate, rice (oryza sativa) bran oil, rice (oryza sativa) starch, RNA, rose extract, rosemary (rosmarinus officinalis) extract rosemary (rosmarinus officinalis) oil, rose oil, rosewood (aniba rosaedora) oil, royal jelly, safflower (carthamus tinctorius) oil, sage (salvia officinalis) extract, sage (salvia officinalis) oil, salicylic acid, sandalwood (santalum album) oil, serine, serum albumin, serum protein, sesame

(sesamum indicum) oil, shea butter (butyrospermum parkii), silica, simethicone, sodium benzoate, sodium bicarbonate, sodium bisulfite, sodium borate, sodium C12-15 alkyl sulfate, sodium cetearyl sulfate, sodium chloride, sodium chondroitin sulfate, sodium citrate, sodium dehydroacetate, sodium hexametaphosphate, sodium hyaluronate, sodium hydroxide, sodium lactate, sodium laureth sulfate, sodium lauryl sulfate, sodium mannuronate methylsilanol, sodium metabisulfite, sodium PCA, sodium sulfate, soluble collagen, sorbic acid, sorbitan laurate, sorbitan sesquioleate, sorbitan stearate, sorbitol, soybean (glycine soja) oil, spirulina maxima extract, squalane, squalene, steareth-2, steareth-20, stearic acid, stearoxy dimethicone, stearyl alcohol, stearyl glycyrrhetinate, stearyl heptanoate, sunflower (helianthus annuus) seed oil, sweet almond (prunus amygdalus dulcis) oil, talc, TEA, TEA-lactate, TEA-stearate, tetrasodium EDTA, thyme (thymus vulgaris) oil, titanium dioxide, tocopherol, tocopheryl acetate, tocopheryl linoleate, triclosan, triethanolamine, trictanoin, tromethamine, ultramarines, urea, vegetable oil, walnut (juglans regia) oil, vitamins, water, wheat germ glycerides, wheat (triticum vulgare) germ extract, wheat (triticum vulgare) germ oil, witch hazel (hamamelis virginiana), witch hazel (hamamelis virginiaina) extract, xanthan gum, yarrow (achillea millefolium) extract, yeast extract, ylang ylang (cananga odorata) oil, zinc gluconate, zinc oxide, zinc stearate, and zinc sulfate.

One skilled in the art will understand that the terms "mixture" and "mixing" in this patent are used in the broad sense of the words, with the term "mixing" including, but not limited to, stirring, blending, dispersing, milling, homogenizing, and other similar methods.

EXAMPLES

Example 1: Preparation of a Cosmetic Composition Base

In order to prepare the cosmetic composition, the following steps were followed. The phase B ingredients were dispersed into the water, butylene glycol, and glycerin, and the ingredients were heated to 80°C for 5 minutes. Next, the remaining ingredients from phase A were added, along with the ingredients from phase C. The preparation was mixed vigorously for 5 minutes. Additionally, the

preparation was homogenized until smooth. The phase D ingredients were then added. The preparation is cooled to 40°C. Finally the remaining ingredients, phase E, were added to the composition. This composition has a pH of approximately 7.0.

TABLE 4: A Cosmetic Composition Base

Ingredient	Phase	% w/w[1]	grams (out of 744.2 g)
Water	A	45.21	452.1
TiO_2	A	0.1	1.0
Xanthan Gum	A	0.1	1.0
Magnesium Aluminum Silicate	A	0.2	2.0
Methyl Paraben	A	0.25	2.5
Propyl Paraben	A	0.15	1.5
Hydroxyethylcellulose	A	0.1	1.0
EDTA	A	0.2	2.0
Sodium Citrate	A	0.5	5.0
Isostearyl Palmitate	B	3.0	30.0
Butylene Glycol	B	2.5	25.0
FINSOLVE™ Moisturizer	B	2.5	25.0
Glycerin	B	2.0	20.0
Dimethicone	B	1.0	10.0
Stearic Acid	C	3.5	35.0
PEG-100 Stearate	C	2.0	20.0
Stearyl Alcohol	C	1.5	15.0
Sorbitan Stearate	C	1.0	10.0
TEA	D	1.25	12.5
Water	D	3.26	32.6
Na Lactate	E	3.0	30.0
Vitamin E Acetate	E	0.1	1.0
Natural Fragrances	E	1.0	10.0

[1] The total percent only adds up to 74.42% as the formulation was prepared for the later addition of 25.58% active ingredients. Thus, the water at the top of the table represents 45.21% of the w/w after addition of the 25.58% active ingredients in Example 2. This method of formulation for base compositions is common in the cosmetic industry and would be easily understood by one of ordinary skill in the art.

Example 2: Cosmetic Composition Containing MAP and UNINONTAN-U34™ (extract formulation of cucumber extract and lemon extract)

A cosmetic base was prepared as in Example 1. The UNINONTAN-U34™ (extract formulation of cucumber extract and lemon extract) and the MAP were added to the base composition, with the MAP being predissolved in water before being added to the preparation. Water (17.58 grams), MAP (3.0 grams), and UNINONTAN-U34™ (extract formulation of cucumber extract and lemon extract) (5.0 grams) were added to 74.42 grams of the base composition of Example 1.

Example 3: A Toner Composition

In order to prepare a toner composition water and water soluble ingredients were mixed and heated to 40°C, then cooled to 30°C. Alcohol and any other ingredients in the cosolubilizer phase were mixed together and filtered to remove any suspended particles. The cosolubilizer phase was mixed into the water soluble phase. Additional ingredients not requiring cosolubilization, including the MAP (0.1%) and UNINONTAN-U34™ (3%), were added to the composition. A final mixing step was performed.

Example 4: Effect of Lightening Agents

The lightening composition was prepared as in Example 2. Samples of the composition were stored for 4 weeks at different temperatures to determine the temperature stability of the composition. The storage temperatures were 5°C, 25°C, 38°C, and 45°C.

The compositions were applied to the MELANODERM™ which was then incubated for three days, changing the media every day. At the end of the incubation, the cream was removed and the MELANODERM™ rinsed.

The MELANODERM™ was then stained with L-DOPA to measure tyrosinase activity. The MELANODERM™ was washed with PBS, fixed for 15 minutes with 10% formalin, incubated with 0.1% L-DOPA for 1 hour, incubated with fresh 0.1% L-DOPA for 4 hours, and post-fixed with 10% formalin.

Qualitative conclusions regarding the efficacy of the whitening agent were made by visual inspection under a microscope. Quantitative evaluations were based on the extraction of melanin and optical density ("OD") readings. Melanin

was extracted from the MELANODERM™ by soaking the MELANODERM™ in 2.0 M NaOH (500 ml) at 80°C for 10 hours and then at 60°C for 24 hours. The sample was then centrifuged and transferred to an ELISA plater. The OD was measured in a microplate reader to determine the amount of melanin in the sample. The percent inhibition was calculated for each sample, by comparing the sample readings to those of its respective control with the same base composition. Percent inhibition is calculated using the following formula:

$$100-\left(\frac{\text{OD Sample}}{\text{OD Control}} \times 100\right).$$

TABLE 5: Effect of Lightening Agents

Sample	O.D.	Mean	% inhibition
None	0.289 0.301	0.295	not applicable
Control (Base Composition)	0.192 0.208	0.200	0.0
3% MAP, 5% UNINONTAN-U34™ (fresh)	0.129 0.135	0.132	23.05
3% MAP, 5% UNINONTAN-U34™ (after 4 weeks at 5°C)	0.127 0.130	0.129	24.04
3% MAP, 5% UNINONTAN-U34™ (after 4 weeks at 25°C)	0.107 0.127	0.117	28.34
3% MAP, 5% UNINONTAN-U34™ (after 4 weeks at 38°C)	0.130 0.145	0.138	21.09
3% MAP, 5% UNINONTAN-U34™ (after 4 weeks at 45°C)	0.143 0.150	0.147	8.89

These data show that the combination of MAP and UNINONTAN-U34™ (extract formulation of cucumber extract and lemon extract) provides effective skin lightening effects and is further quite stable at room temperature. As MAP is known to have significant stability problems, this combination notably remains stable after 4 weeks. Only at very high temperatures, 45°C does the MAP and UNINONTAN-U34™ (extract formulation of cucumber extract and lemon extract)

composition begin to lose efficacy. Furthermore, these results show the increased efficacy available with the unique combination of MAP and UNINONTAN-U34™ (extract formulation of cucumber extract and lemon extract).

While illustrative embodiments of the invention has been described above and are attached, it is, of course, understood that various modifications will be apparent to those of ordinary skill in the art.

We Claim:

1. A whitening cosmetic composition comprising a vitamin C derivative and an extract formulation including cucumber extract and lemon extract.

2. The cosmetic composition of claim 1, wherein the vitamin C derivative is an ascorbyl phosphate of an alkali metal, an alkaline earth metal, or a transition metal.

3. The composition of claim 1, wherein the vitamin C derivative is magnesium ascorbyl phosphate (MAP).

4. The cosmetic composition of claim 1, wherein the cucumber extract and lemon extract are added as a mixture with the following percents of each ingredient: cucumber extract (15.0%) and lemon extract (16.0%).

5. The cosmetic composition of claim 3, wherein the cucumber extract and lemon extract are added in one product, an extract formulation.

6. The cosmetic composition of claim 5, wherein the MAP is at a concentration of from .05 to 10%.

7. The cosmetic composition of claim 5, wherein the extract formulation is at a concentration of from 0.5 to 10%.

8. The cosmetic composition of claim 5, wherein the MAP is at a concentration of 3%

9. The cosmetic composition of claim 5, wherein the MAP is at a concentration of 0.1%.

10. The cosmetic composition of claim 5, wherein the extract formulation is at a concentration of 5%.

11. The cosmetic composition of claim 5, wherein the extract formulation is at a concentration of 3%.

12. The cosmetic composition of claim 7, wherein the pH of the composition is between 6 and 7.5.

13. A method of treating hyperpigmentation comprising applying the cosmetic composition of claim 1 and repeating the application on a regular basis.

14. The method of claim 9, wherein the application is repeated every day.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/06794

A. CLASSIFICATION OF SUBJECT MATTER
IPC(6) :A61K 35/78, 31/34
US CL :424/195.1; 514/474
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 424/195.1; 514/474

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
NONE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4,806,354 A (GREEN) 21 February 1989.	1-14
A,P	US 5,840,278 A (COLEMAN) 24 November 1998.	1-14
A,P	US 5,888,514 A (WEISMAN) 30 March 1999.	1-14

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:
"A" document defining the general state of the art which is not considered to be of particular relevance
"E" earlier document published on or after the international filing date
"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
"O" document referring to an oral disclosure, use, exhibition or other means
"P" document published prior to the international filing date but later than the priority date claimed
"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"&" document member of the same patent family

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Date of mailing of the international search report
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